Effectiveness of Multiple Intelligence Based Teaching in Teaching English for Primary School Students

Research Paper—Education

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Introduction :-Intelligence is the ability to solve problems or to create products that are valued within one or more cultural settings. Intelligence is not unitary but rather comprises eight multiple intelligence: verbal linguistic intelligence, logical English intelligence, visual spatial intelligence, bodily kinesthetic intelligence, musical rhythmic intelligence, interpersonal intelligence, intrapersonal intelligence and naturalistic intelligence. Each of this intelligence is a distinct module in the brain and operates more or less independently of the others. It is very important that a teacher take individual differences among learners very seriously.

Gardner and Hatch (1989) discussed about the educational implications of the theory of multiple intelligence. In this, Gardner opposed the practices of traditional education system that typically place a strong emphasis on the development and use of verbal and English intelligence. Blythe and Gardner (1990) proposed the process of implementation of multiple intelligence theory based instructional strategies for the schools. They stressed the urgency and importance of adopting this method in schools. Munro (1994) conducted a study on a model of individual ways of learning and its implications for English teaching Constanzo and Paxton (1999) pointed out that multiple intelligence theory could be used in the classroom as guide to provide a great variety of way for students to learn and to demonstrate their learning. As learners and teachers work together, intelligence can emerge naturally through interviews, preference grids and need assessments. Kuzniewski, (2002) conducted an action research project described a program for expanding multiple intelligence to increase reading comprehension in both English and Mathematics. A review of solution strategies and analysis of the problem setting resulted in the selection of two major cateogores of intervention, incorporation of multiple intelligence strategies combined with cooperative learning techniques in English and Mathematics units. Generally, students' are afraid of studying English. There are various reasons for this, method being one of them. Pupils tend to learn English through a meaningful approach to English rather than by a mechanical process. In order to make children learn effectively the techer has to adopt the right method of teaching.

For choosing right method for a given situation, the teacher must be familiar with different methods of teaching. Already there are various methods of teaching English. Even though, if we consider the individual difference and the influence of scientific and technological advancement, then the development of innovative methods of teaching English are essential in teaching and learning of English. Since multiple intelligence theory opens the door to a wide variety of teaching strategies that can be easily implemented in the classroom.

Objectives of the study:-1. To find out the level of performance of control and experimental groups in their gain scores. 2. To find out the difference between control and experimental groups students in their gain scores.

Design of the experiment:-Based on the objectives of the study, the investigator has selected the parallel design or equivalent group desing for conducting the experiment. The investigator randomly selected 60 VII standard students from a primary school at Ahmedabad in Gujarat. These student were grouped into two equivalent groups on the basis of their achievement in English, which is obtained from the school records.

Tools used:-Achievement test in English for the VII standard students and Multiple Intelligence Based Teaching developed and standaradized by the investigator has been used to collect the data. Thomas Armstrong (1994) has defined the following: Teaching activies, teaching materials and instructional strategies for multiple intelligences based teaching.

Development of multiple intelligence based teaching:- Based on table No. 1, the investigator has derived the activities for these multiple intelligence to develop MIBT. To develop the MIBT, the investigator has selected the topics

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like, 'The science city', 'Fearless Forest', 'Pyara Pillu' ! and some poetry VII standard English considering the theory of Multiple Intelligence some relevant activities have been constructed by the investigator for each and every intelligence. The following table gives some sample of multiple intelligence activities. (See Table 1)

Based on these core activities, more number of Multiple Intelligence activities can be generated teach a particular content; For example, 1. Linguistic Intelligence: Ex: a) The teacher asks the studnets to write the problem b) The teacher asks the students to read the problem and c) The teacher asks the students to tell the spelling etc. 2. Logical English Intelligence: Ex: a) The teacher asks the studnets to find the reason "Why"? b) The teachers asks the studnets to analyse the problem ? i.e. What is given in the problem? What is to be found? c) The teacher asks the studnets to solve the problem. d) The teacher asks the studnets to find the solution for a puzzle. 3. Spatial Intelligence: Ex: a) The tachers asks the studnets to draw a picture. b) The ateacher asks the students to solve the picture puzzles. c) The tacher asks the studnets to arrange the zig zag pictures. d) The teacher asks the students to measure the plane e) The ateacher asks the studnets to create an environment of a fruit stall. 4. Bodily Kinesthetic Intelligence:

Ex: a) The teacher asks the studnets to touch the shapes. b) The teacher asks the studnets to paint a picture. c) The teacher asks the studnets to construct a model. d) The teacher asks the students to measure the plane. e) The teacher asks a student to act as a shopkeeper. 5. Music Intelligence :-Ex: a) The teacher asks the studnets to sing a song "prayers". b) The teacher asks the studnets to listen music. c) The teacher asks the studnets to act a drama with background music. 6. Interpersonal Intelligence: Ex: a) The teacher asks the studnets to solve the problems in the group. b) The teacher gives a discussion to the students c) The teacher gives a project to the students.

7. Intrapersonal Intelligence: Ex: a) The teacher asks the students to construct the problems. b) The teacher gives homework to the students. c) The teacher gives a project to the studnets. 8. Naturalistic Intelligence: Ex: a) The teacher asks the studnets to find the relations from the real life situations. b) The teacher asks the students to find the seasons in terms of months. c) The teacher asks to collect the real life situations for The Science City and Fearless Forest. Like these activities the investigator has developed three activities for each intelligence with the help of various resources like text-book, puzzle-books, magazines, etc.

Table No.1
Multiple Intelligence activities, materials and strategies.

Intelligence	Instructional Strategies (Examples)	Teaching Materials (Examples)	Teaching Activities
Linguistic	Lectures, discussions, Wordgames,storytelling, choral reading, journal writing	Books,taperecorders, type writers, stamp sets, books on tape.	Read about it,Write About it, talk about it, listen to it.
Logical English	Brain teasers, problem solving, science experiments, mental Exercise, number games, critical thinking.	Picture,English monipulative, science equipment English games.	Quantity it, think critically about it, put it in a logical framework, experiment with it.
Spatial	Visual presentations, art activities, imagination games, mine-mapping, metaphor, visualizationb.	Graphs, maps, video,logo sets, art materials, optical illusions, comeras picture library.	See it, draw it, visualize it, colour it, mind-map it.
Bodily-Kinesthetic	Hands-on learning, Drama, dance, sports That teach, Tactile activities, relaxation exercises.	Building tools, clay, sports equipment, manipulative, tactile learning resources.	Build it, act it out, touch it, get a "gut feeling" of it, dance it.
Musical	Rhythmic learning's, rapping, using songs that teach	Tape recorder, tape collection, musical instruments	Sing it, rap it, listen to it.
Interpersonal	Cooperative learning, Peer tutoring, communityinvolvement, social gatherings, simulations, etc.	Board games, party supplies, props for role plays.	Teach it, colloborate on it. Interact with respect to it, etc.
Intrapersonal	Indidivudalized instruction, independent study, options in course of study, self-esteem building, etc.	Self-checking materials, journals, materials for projects.	Connect it to your personal life, make choices with regard to it, reflect on it etc.
Naturalist	Nature study, ecological awareness, care of animals.	Plants, animals, naturalist's tools (e.g. Binoculars) gardening tools	Connect it to living things and natural phenomena etc.

Table No. 2.
Sample of Multiple Intelligence Activities.

Sr.No.	MULTIPLE INTELLIGENCE	MULTIPLE INTELLIGENCE ACTIVITIES
1.	Intelligence Linguistic	read, write, duscuss the problems, solve word puzzles, English word games, write poems, technique and write the correct spellings.
2.	Logical-English Intelligence	analyze the problems (What is given? What is to be found?) Solve the problems, solve number puzzles and solve the problems by mental calculation.
3.	Spatial Intelligence	show pictures, diagrams and shapes, draw pictures, diagrams, graphs and shapes, solve picture puzzles, Jig Sag puzzles, graphical puzzles.
4.	Bodily kinesthetic Intelligence	construct models, touch figures, shapes and models act in a situation (drame role play etc.)
5.	Musical Intelligence	Play music, sing the song related to the topic, tell the poem.
6.	Interpersonal Intelligence	Group discussion, group assignments, role play, play board games.
7.	Intra Intelligence	Construct problems by self, connect the classroom problems in to the personal life, give assignments and homework
8.	Naturalistic Intelligence	Connect with nature.

Conducting the experiment:

Table no.3
Pre-test was administered to both control and Table no.3 Level of gain scores of control and experimental group students

Group	Low		Moderate		High		Total
	N	%	N	%	N	%	
Control Group (N=30)	6	20.00	21	70.00	3	10.00	30
Experimental Group (N=30)	3	10.00	19	63.33	8	26.67	30

Table no. 4
Difference between Control and Experimental Group Students in their Gain Scores.

Group	Mean	S.D.	Calculated 't' Value	Remarks at 5% level.
Control Group (N-30)	4.20	1.22	8.09	Significant
Experimental Group (N=30)	7.13	1.56		

(At 5% level of significant the table value of "t" is 1.96)

experimental group studnets. After conducting the pre-test to the both control and experimental groups, the control group was taught the lessons by traditional method. For the experimental group studnents the investigator had used the Multiple Intelligence Based Teaching.

Data Collection And Analysis:- The collected data were subjected to the following statistical analysis to arrive the meaningful conclusion.It is inferred from the above table that in the control group, 20% studnets have low level, 70% of them have moderate level and 10% of them have high level of gain scores. In the experimental group, 10% of studnets have low level, 63.33% of them have moderate level and 26.67 % of then have high level of gain scores.

Table No. 5.
Difference between Control And Experimental GroupStudents in thier Gain Scores for the Attainment of Knowledge, Understanding, Application And Skill Objectives.

Objectives	Groups	Number	Mean	S.D.	Calculated 't' value	Remarks of 5% level
Knowledge	Experimental Group	30	1.60	0.66		
	Control Group	30	0.80	0.79	4.24	Significant
Understanding	Experimental Group	30	1.67	0.70		
	Control Group	30	0.97	0.66	3.99	Significant
Applications	Experimental Group	30	1.70	0.74		
	Control Group	30	1.17	0.64	3.00	Significant
Skill	Experimental Group	30	2.27	0.93		
	Control Group	30	1.27	0.81	4.24	Significant

(At 5% level of significant the table value of't' is 1.96)

HO_1 : There is no significant difference between control and experimental group students in their gain scores. It is inferred from the above table that the calculated't' value 8.09 is greater than the table value 1.96. Hence, the null hypothesis is rejected.

HO_2 : There is no significant difference between control and experimental group students in their gain scores for attainment of knowledge, understanding, application and skill objectives. It is inferred from the above table that there is significant difference between control and experimental group students in their gain scores for the attainment of knowledge, understanding, application and skill objectives.

Results and Discussion:-The 't' test result reveals that the experimental group students are better than the control group students in their gain scores. This may be due to the fact that the Multiple Intelligence Based Teaching of English is more effective than the traditional method of teaching English. Multiple Intelligence based teaching helps the students to improve their achievement in learning English. Moreover, this method provides opportunity to develop their multiple capabilities of learning. The 't' test result shows that the experimental group students are better than the control group students in their gain scores for the attainment of knowledge, understanding application and skill objectives. This may be due to the fact that the Multiple Intelligence Based Teaching has developed the readiness of the students to acquire the knowledge of English. Also it motivated the students to understand the concepts easily, since this method gave pleasurable values in learning English. Also it provides eight different potential pathways in learning and to develop the various skill in English.

Conclusion:-In general, Multiple Intelligence Based Teaching is an effective method in teaching and learning English among primary school students. This method inspired the exploration of multiple intelligence, nartured and used various strategies, properties and relationships in learning English. So the Multiple Intelligence Based Teaching is very useful in teaching and learning English to the primary school students.

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